Day2

Thursday, August 27, 2009
4:58 PM

Announcement by Dr. Tu - project #1 will be posted this weekend - please review the course website and Blackboard for details.

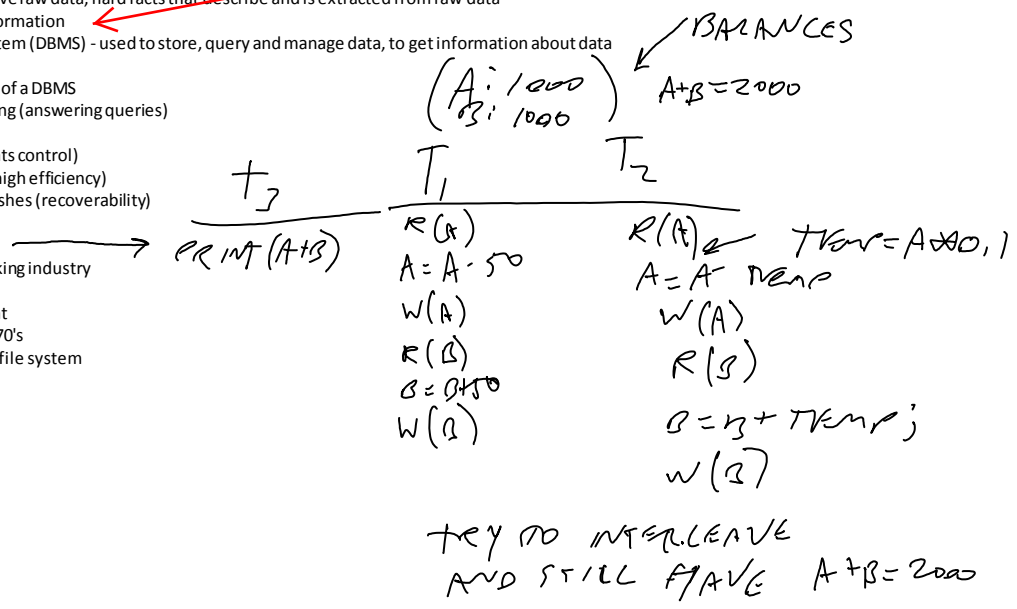
Motivation for study of databases

Sometimes, it also refers to "data + DBMS"

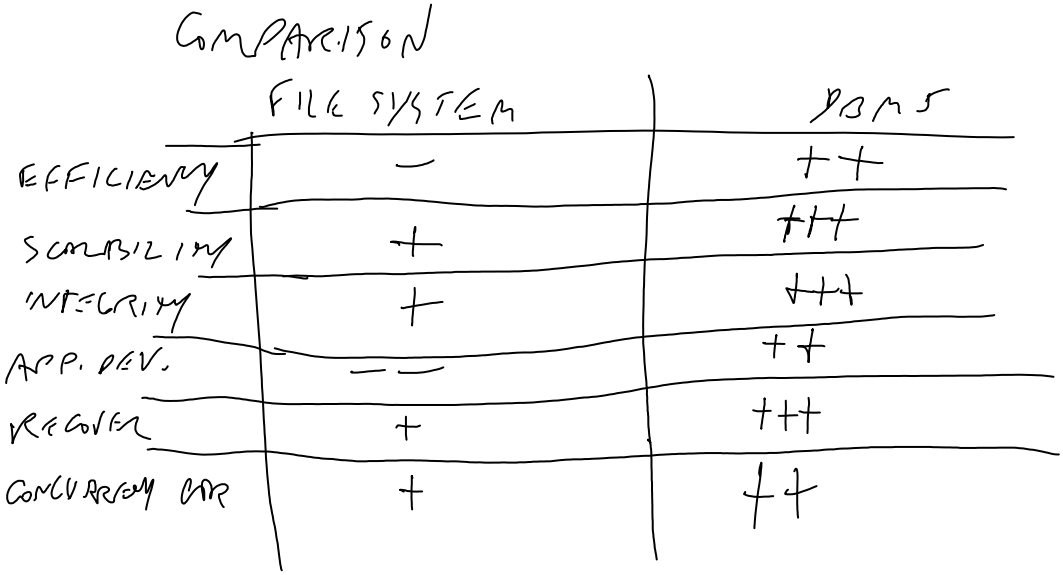
Basic concepts
- Data - raw facts of human or interface you collect from sensor or stream (example of sensors in room)
- Information - one level above raw data, hard facts that describe and is extracted from raw data
- Database - collection of information
- Database management system (DBMS) - used to store, query and manage data, to get information about data

Functionality (desirable features) of a DBMS
- Efficiency in query processing (answering queries)
- Scalability
- Integrity, security (user rights control)
- Application development (high efficiency)
- Gracefully recover from crashes (recoverability)
- Concurrency control

Concurrency Example: banking industry



History of data management
- DBMS late 60's early 70's
- Use OS to put data in file system



Two unique (important) features of a DBMS
- Efficient processing and development of ad hoc queries
- Data independence (hide details of data from user)

Why study databases? Every industry uses some form of database technology.

Preview of relational databases - each row in each table represents some facet of the person, entity, etc (SSN, DOB, Name, etc)